

**(Your Project Name)**

**Project proposal**

Prepared by: xxxxxxxxx

Version: xxxxxxx

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# Project executive summary

The aim of this project is to produce a real time strategy game which makes the consequences of different government policies clear.

In the proposed game, the player assumes the role of the government of a country and must make decisions which effect their emission levels and their economy. The goal of the game is to get emissions levels to 350ppm or below while maintaining a productive economy without getting voted out.

It is envisioned that the behavior of in game events be realistic, the amount of CO2 emitted by different choices in the game such as what type of electricity generation you build should reflect real world values and in game events should reflect the best of the known science when CO2 levels begin to rise[[1]](#footnote-1). Possibilities for these in-game events include increased frequency of adverse weather conditions.

## Project Name: Meltdown (code name only)

**Team Members**: Maria Welborn

**Client:350.org**

**Project Sponsor**: Otago Polytechnic

Project Supervisors: Lesley Smith, Samuel Mann

**Note: The concept demo should be viewed with this document. DirectX 9c[[2]](#footnote-2) or later must be installed on your machine in order for the demo to work and you must have a recent graphics controller.**

## Project Description:

**Goal:** Promote awareness of climate change focusing on the 350ppm safe CO2 level and the economic and environmental consequences involved.

**Objectives:** Produce a real time strategy game dealing with the issues involved in climate change.

## Deliverables:

|  |  |  |
| --- | --- | --- |
|  | ***Details*** | ***Estimated Date*** |
| * Project Start | What systems could be a step towards this goal? | Completed wk starting 27th July (?) |
|  | Decide on a system to implement | Completed 14th aug (?) |
| * Release One | Concept Sketches | 31st Aug. |
| * Release Two | Playable Demo |  |
| * Release Three | Deployable game. | 24th September |
|  |  |  |
| * Project End |  |  |

**Development Estimates (person/hours):**

|  |  |  |
| --- | --- | --- |
| **Component** | **Person/Hours (avg case)** | **Person/Hours (worst case)** |
| **Media Assets** |  |  |
| **Terrain Map** | **5** |  |
| **Unit Models** | **20** |  |
| **UI/Theme Graphics** | **10** |  |
| **Sound FX/Musc** | **5** |  |
| **Engine[[3]](#footnote-3)[[4]](#footnote-4)** |  |  |
| **Scenegraph** | **3** |  |
| **Graphics Code** | **10** |  |
| **Sound Code** | **5** |  |
| **Input** | **2** |  |
| **Isometric World Model** | **5** |  |
| **Game Play** |  |  |
| **Behavior / Concepts** | **(largely done)** |  |
| **Scripting Development** |  |  |

Note: While there is a lot of advanced sounding stuff on this list for a single developer to implement, there is

Client:………………………………………. Project Team:……………………………………….

……………………………………………….. ………………………………………………………

Date:………………………..………………… Date:…………………………………………………

Section Two: Business Outline

# Business statements

## Client Mission Statement:

Our mission is to inspire the world to rise to the challenge of the climate crisis—to create a new sense of urgency and of possibility for our planet.

Our focus is on the number 350--as in parts per million, the level scientists have identified as the safe upper limit for CO2 in our atmosphere. But 350 is more than a number--it's a symbol of where we need to head as a planet.

To tackle climate change we need to move quickly, and we need to act in unison—and 2009 will be an absolutely crucial year.  This December, world leaders will meet in Copenhagen, Denmark to craft a new global treaty on cutting emissions. The problem is, the treaty currently on the table doesn't meet the severity of the climate crisis—it doesn't pass the 350 test.

In order to unite the public, media, and our political leaders behind the 350 goal, we're harnessing the power of the internet to coordinate a planetary day of action on October 24, 2009.  We hope to have actions at hundreds of iconic places around the world - from the Taj Mahal to the Great Barrier Reef to your community - and clear message to world leaders: the solutions to climate change must be equitable, they must be grounded in science, and they must meet the scale of the crisis.

If an international grassroots movement holds our leaders accountable to the latest climate science, we can start the global transformation we so desperately need.

## Business description:

Organize and promote campaigns and events to increase awareness of climate change.

Co-ordinate different environmental groups around the world in support of a global campaign to promote political support for the 350PPM safe-limit at the Copenhagen climate change summit.

## Business objectives:

Drive reduction in CO2 emissions levels to the point where the earth’s atmosphere will have a concentration of 350 PPM[[5]](#footnote-5) or less CO2. 350.org is a non-profit organization.

Section Three: Methodology

# Project Methodology

Circumstances have left me without a development group; however this has happened to me in my commercial contracting experience too. This means there are different concerns and issues in the project which the methodology must attempt to guard against.

For example communications between development team members are not an issue, but tunnel vision of a single developer is now a serious issue. This makes dialogue with people outside the project and user testing more important than they are in a group project.

There are two existing methodologies which are particularly useful for a project of this type:

**Model-View-Presenter**

Model view presenter is more of a design pattern than a project methodology and as such must be combined with a true software engineering methodology.

Presenter

Co-ordinates model and view to generate user visible application behavior takes user input and passes to model.

View – Graphics rendering, scenegraph, Sound, etc.

Model

(state of game world, game play constraints, etc)

It may not be immediately obvious but the advantage of this approach is it promotes a greater degree of modularity than a monolithic approach. It is particularly advantageous for games as it ensures that system level code such as graphics rendering stays completely separate from actual game play code.

This allows changes to be made throughout the development process. For example if time were running short it would be possible to replace the view with a simple 2d renderer in order to still deliver a functional game, though with a less rich interface than originally planned. Existing game play related code would not need to be modified as long as the new View component can conform to the same interface. In design patterns without this degree of isolation between components, this would not be possible.

## Agile Methods



Section Four: Project Outline

# Project Outline

## Project Description

# Project risks

Assessing project feasibility

Project risks are circumstances or events that exist outside of the control of the project team that will have an adverse impact on the project if they occur. (In other words, whereas an issue is a current problem that must be dealt with, a risk is a potential future problem that has not yet occurred*.) All projects contain some risks. It may not be possible to eliminate risks entirely, but they can be anticipated and managed, thereby reducing the probability that they will occur.*

Risks that have a high probability of occurring and have a high negative impact should be listed below. Also consider those risks that have a medium probability of occurring. For each risk listed, identify activities to perform to eliminate or mitigate the risk.

*Risk needs to be considered in a number of areas:*

## Economic Feasibility

Assuming a successful outcome, what business benefits could result? If the project does not succeed, the loss of these benefits may be a risk to the business. Tangible benefits are those that can be measured in direct financial terms. Intangibles are harder to measure but can contribute to overall success or failure. Many businesses do not take intangible benefits into account.

|  |  |
| --- | --- |
| *Examples of tangible and intangible benefits.* | |
| Tangible benefits: | Intangible benefits: |
| Cost reduction/avoidance  Saving of labour hours  Error reduction  Increased flexibility  Increased speed of activity  Improved management and control | Faster decision making  Employee morale  Increased accuracy |



*Make your own list of benefits specific to your project. Provide as much detail as you can and explain your decisions.*

## Technical Feasibility

These are the risks involved in the development.

A) Big is riskier

- number of people - duration time - departments - size of programming effort

B) Ill defined, ill structured, messy or subjective = a more risky project than a tightly defined one.

C) Team management – is the team experienced in this type of project? Are they an established and effective team?

Write a paragraph describing the risk level of the project taking into account the factors above.

## Operational Feasibility

Degree to which proposed system is likely to solves the business problems take advantage of the business opportunities. What are the consequences of failure?

## Legal, Ethical and Contractual Feasibility

Potential legal and ethical ramifications of construction of system.

Does the client expect confidentiality? What steps will you take to ensure this?

## Political Feasibility

How do key stakeholders view the system? Projects promoted with a ‘top down’ approach can fail due to lack of support from key users.

## Risk Action Plan

For the risks you have identified in the above sections, describe what steps you will take to minimize the impact.

|  |  |  |
| --- | --- | --- |
| **Risk Area** | **Level (H/M/L)** | **Risk Plan** |
|  |  |  |
| 1. Project risk #1 |  | Risk plan activity #1, etc. |
| 2. Project risk #2 |  |  |
|  |  |  |

# 

1. Some liberties will have to be taken with this to fit with scope requirements and available processing power. An accurate simulation of the earth’s climate typically runs on a 5,400 node Beowulf cluster and takes many thousands of scientist-hours to prepare. The aim is to be believable to a university educated audience, so any physics simulation in game only has to produce results which are not ridiculous – A considerably easier task. [↑](#footnote-ref-1)
2. If you received the demo on DVD-R from me, the installer will prompt you to install this if it’s not already installed. Just pop the disk in and follow the prompts. If you downloaded it off the wiki, you will have to get it to work on your own. [↑](#footnote-ref-2)
3. Some of this coding has actually already been done during the feasibility study and preparation for client concept demo. It does however need a lot of work to make it robust. [↑](#footnote-ref-3)
4. Will probably be based on existing open source code or similar. Trying to actually build the game engine from scratch would be unacceptably risky unless the requirements turn out to be far simpler than I estimate at the present time. [↑](#footnote-ref-4)
5. Parts Per Million [↑](#footnote-ref-5)